Behavior Analysts and Counseling: Why Are We Not There And How Can We Get There?

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Abstract

Even with a rich history demonstrating how complex behaviors are acquired, traditional psychological domains are still not well represented in behavior analytic literature (Dougher & Hackbert, 2000). This paper will briefly present some of the reasons why behavior analysts might be reluctant to foray into traditional "counseling" areas. Next, the traditional counseling process will be defined, followed by ways in which the characteristics and processes of traditional counseling can be explained based on the principles of behavior and by using behavior analytic terms. Finally, this paper will present some traditional counseling programs that adhere to, or are based in, behavioral psychology and will offer some suggestions for areas of future research.
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Behavioral psychology is a broad field that encompasses a range of topics from working with individuals with severe self-injurious behaviors through professional management in the workplace. While the range of topics is broad, the interventions or programs that are put into place have common elements: behaviorists work to modify behavior by using the principles of behavior.

The degree that I (the first author) hold is in developmental and child psychology, with my doctorate-level education focusing on behavior analysis. Thus, I hold two credentials: I am a board certified behavior analyst (BCBA) as well as a licensed psychologist (LP). The BCBA signifies that I understand behavior (or it should) while the LP indicates that I hold the credential necessary to bill insurance companies for my work with clients. I work with families and children that have behavioral challenges and continually come in contact with traditional views of the diagnosis, development, and treatment of emotional and behavioral challenges in children. Because of this, I attended a workshop on the treatment of emotional disorders in children at the most recent Association for Behavior Analysis International conference in order to further develop my understanding of the treatment of these disorders from a behavior analytic perspective. I came away with the sense that, with a few exceptions, behavior analysis continues to avoid addressing some of the issues that "traditional" psychology and counseling address. This is apparent even in the way behaviorists talk about services between the two divisions of the field: one goes to a psychologist or counselor for "therapy" or "counseling"; one receives "intervention" from a behavioral psychologist or behavior analyst (Baker, Blumberg, Freeman, & Wieseler, 2002; Dougher & Hackbert, 2000). Even for a single individual working as a BCBA and an LP, the two services are separate. When working with insurance companies, the language that is used determines if the service receives reimbursement: if "interactive therapy" with a descriptive narrative of what transpired during the psychologist/client interaction is provided the service receives compensation; if "intervention services" are provided with data sheets and a graph the services are not compensated: insurance companies do not pay for "behavior modification" or "intervention" – they pay for counseling and therapy. Thus, I feel that an understanding of the dichotomy between behavioral intervention and counseling is critical to increasing the availability of quality behavior analytic services and is worthy of discussion.

In my experience, while our unwillingness to foray into traditional "counseling" areas is multivariate, there are a few basic areas that are fundamental to this "unwillingness." First, because our education does not include traditional psychological training, behavior analysts do not learn how to present intervention services in such a way as to receive third party reimbursement. Consequently, the contingencies that operate on our behavior as we provide treatment for challenging behavior in an applied setting tend to be aversive – we either need to learn how to use non-behavioral terms to describe behavior/environment

interaction (requiring an increased response effort) or we do not receive payment. A case in point is my recent experience with Medicaid. I had been supplying services for four families over a three-year period. When Medicaid conducted their audit of my files I was denied payment for these services, based in part on the type of notes I had (e.g. "change schedule of SR+ to a VR3"). Consequently, a recoupment process was started, and I was required to reimburse Medicaid the roughly $16,000 I had been paid over the three year period. This event was (and continues to be) quite punishing!

Secondly, as behavior analysts, we receive our professional recognition (social reinforcement) from the community within which we operate. Traditionally, research funding and publications (professional recognition) are generated based on our ability to demonstrate observable, experimental control. B. F. Skinner often discussed using behavioral terms to explain complex human behaviors (Skinner, 1945; 1977; 1984; 1989). For almost 60 years, experimental research has been conducted that has demonstrated how animals can exhibit complex behaviors such as lying (Lanza, Starr, & Skinner, 1982), self-awareness (Epstein, Lanza, & Skinner, 1981), and superstition (Morse & Skinner, 1957; Skinner, 1948). More recently, other authors have sought to provide their own interpretations of complex behaviors, which often includes complex constructs such as observational learning, cognition, emotion, anxiety, mental structures, private events, covert responses, self-efficacy and expectation (DeGrandpre, 2000; Dougher & Hackbert, 2000; Gaudino, 2006; Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Marx, 2006; Overton & Ennis, 2006; Tourinho, 2006; Tryon, 2005).

However, even with abundant research into complex behavior patterns, traditional psychology domains are still not well represented in behavior analytic literature (Dougher & Hackbert, 2000). Thus, behavior analysts are more likely to continue to conduct applied research in topic areas in which we will receive recognition from those in our professional community. Therefore, it is not surprising that we continue to avoid (with some exceptions) addressing those areas typically associated with "traditional" psychology (e.g. anxiety, emotional difficulties, depression, internal events, etc.) while continuing to be productive in those topic areas for which we are reinforced (e.g. phobia's, aggressive behavior, etc.) – we are, after all, subject to the same principles of behavior as those with whom we work. The cumulative effect of these meta-contingencies is that we have become pigeon-holed into conducting work in the field of developmental disabilities (including autism) and the range of associated behaviors. Individuals with severe emotional disorders go to counseling; individuals with "behavior problems" or developmental disabilities receive behavioral interventions. Whatever a therapist's theoretical framework, we have all entered this field because of our desire to "do good" or contribute to "bettering the human condition" – the difference is in our understanding of human behavior, how it developed, and how to be effective at changing and/or modifying those behaviors that are problematic to the individual and/or society.

Given these variables that operate on our behavior, we thought it would be beneficial to the field of applied behavior analysis(ABA) to present some of the topic areas that are typically associated with "traditional" psychological services (e.g. the therapy process) and how those areas could be addressed in our field. In order to provide a framework from which the traditional therapy approach can be viewed in behavioral terms, this will require 1) an exploration of those disorders (or "clusters of behavior") that typically bring individuals to "counseling", 2) the components involved in a traditional therapy encounter, and 3) how the terms and techniques that appear to account for intervention effectiveness can be discussed using behavior analytic terms. Finally, a brief review of efficacy studies will be discussed, conclusions will be drawn, and suggestions for future research will be presented. Whether or not these behavior analytic terms fully explain the effects of traditional therapy are, of course, empirical questions. While the receipt of this article will undoubtedly open us up to professional criticism, it is our hope that this article will spawn debate and allow behavior analysts to begin to address those content areas that are historically the domain of traditional psychology. At the same time, perhaps it will create a paradigm shift

that will some day provide the opportunity for behavior analysts to receive compensation for professional services that can have such a significant beneficial impact on the lives of individuals.

Conditions that bring children into therapy

Individuals seek counseling when either they, or someone in their environment, exhibit behaviors that are problematic to them or others. For children, these behaviors typically include excessive tantrums, disruptive behaviors, aggression, inappropriate behaviors, poor peer relationships, hyperactivity, and anxiety. In order to receive treatment through mental health benefits, an individual must have been assessed by a professional and have received a "diagnosis". This diagnosis, often through the *Diagnostic and Statistical Manual, 4th edition, Text Revised* (*DSM-IV-TR*) (APA, 2000) covers the gamut of human behavior, including intellectual, motor, and adaptive deficits as well as problems with anxiety and social skills.

The *DSM-IV-TR* relies on a standard classification of symptoms for which to diagnose disorders. For example, Reactive Attachment Disorder (RAD) is the diagnosis given to a child that has a cluster of characteristics that are associated with a history of abuse and/or neglect. In order to receive a diagnosis of RAD, a child must have exhibited behavior characteristics prior to the age of 5 (APA, 2000). Children with this diagnosis generally exhibit one of two general "types": inhibited, in which the child fails to initiate or respond in social situations in ways considered to be developmentally appropriate, or; disinhibited, where the child indiscriminately displays attachment behaviors toward others. Both types are measured against "developmental norms." One early risk factor appears to be whether the child has prolonged exposure to institutionalized care, thus preventing "bonding" or "attachment" to others. Notice that the diagnosis is based on historical events and lists the defining characteristics (all of which are behaviors that are amenable to analysis and change) that are problematic in the individual's life.

There has been significant criticism from the behavioral community regarding the utility of the *DSM-IV-TR* classifications (Andersson & Ghaderi, 2006). In addition, most disorders are viewed as attributable to underlying structures or processes (Dougher & Hackbert, 2000) with "mental illness" a manifestation of a disorder in one of these underlying structures. However, if one maintains an understanding that the behaviors are what have garnered the diagnosis, not the diagnosis as responsible for the behaviors, the *DSM-IV-TR* classifications provide us with a shorthand way of discussing clusters of behavioral characteristics. While the criticisms of the use of the *DSM-IV-TR* are theoretically useful and the diagnoses themselves can be viewed as social constructs (Andersson & Ghaderi), the behaviors are sufficiently problematic for the individual in his/her environment that those closest to him/her seek assistance. Thus, while a more in-depth analysis of the shortcomings of the *DSM-IV-TR* continues to be a subject for debate, the focus of this paper will be to address those events that occur post-diagnosis (therapy) and the variables associated with that therapeutic environment.

Once a child and/or family have come to a professional setting for services, they are often referred to counseling. Traditional psychology, while diverse, has some commonalities across disciplines and theoretical frameworks. Some of these include characteristics of the professional (Therapist Characteristics), key therapist behaviors and client characteristics (Therapeutic Relationship), and the therapy process that governs the intervention/counseling process (Therapy Process) (APA, 2006; Chambless & Hollon, 1998; Frank, 1973; Frank & Frank, 1991; Nietzel, Bernstein, & Milich, 1991; Norcross, 2005) with the objective of alleviating the distress (Schonbeck, 2002). Of these commonalities, therapist characteristics and behaviors as well as the therapy process have been shown to have a direct impact on outcomes (APA, 2006; Auld & Hymen 1991; Frank, 1973; Frank & Frank, 1991; Grencavage & Norcross, 1990; Reid, Kenaley, & Colvin, 2004; Tracy, Lichtenberg, Goodyear, Claiborn, & Wampold, 2003). These commonalities will be described below, followed by an alternative explanation of how these elements could function as a stimulus/set of stimuli that could be responsible for therapy outcomes

Therapy Components

Therapist Characteristics – Research suggests that therapist characteristics and how therapists interact with clients are two of the key components in the effectiveness of interventions (APA, 2006; Broekman, Schaap, & Lange, 1985; Critis-Christoph, et.al, 1991; Nietzel, Bernstein, & Milich, 1991). Traditionally, the therapist (this term is used to include counselor, psycho-therapist, social worker, etc.) requires advanced training to assist in ameliorating the disturbance that precipitated entry into counseling (Chambless & Hollon, 1998). Therapists receive pre-service training on how to understand and interact with clients in order to foster more effective coping skills. These techniques include exhibiting compassion, genuineness, empathy, and unconditional positive regard, a Rogerian technique that calls for the therapist to "treat the client as worthy and capable" even when the client does not act or behave that way (Auld & Hymen 1991; Frank, 1973; Grencavage & Norcross, 1990; Reid, Kenaley, & Colvin, 2004). Learning these skills is a key component to pre-service training in most psychology programs (Nietzel, Bernstein, & Milich, 1991).

Therapeutic relationship – With traditional counseling, participation is voluntary unless the behavior is severe enough that it has brought the client into contact with law enforcement agencies. Some of the techniques that are used in initial counseling sessions include the use of a contract for services which includes disclosure, goals of therapy, procedures, potential risks, limits to confidentiality, responsibilities of client and therapist, as well as any initial assessments that are conducted (APA, 2006; Psychotherapy, 1998; Schonbeck, 2002). According to Korchin (1976), the responsibilities of the client and therapist require a balance of attachment and detachment. When discussing child therapy, the "client", while the child, also includes the parent (Kazdin & Weisz, 1998; Psychotherapy, 1998). Parent-training therapy is presented in more detail below.

Therapy process – The initial step in the therapy process is the assessment of the client's condition, current level of functioning and treatment goals (APA, 2006; Psychotherapy, 1998). These are accomplished in different ways across therapies dependent upon the professional's theoretical perspective. From a traditional perspective, an initial intake interview is conducted either with the client or a significant other in the client's life (for the purposes of this paper that would be the parent and/or guardian). This would involve a medical history, psychological history, history of traumatic events, and how the individual is currently functioning in his/her environment/home/school, etc. and includes some standardized assessment of adaptive and daily living skills, a rating scale, or other type of assessment. Typically, this would be a starting point for many behavior analysts as well, but it lacks what many behavior analysts would view as essential: direct and indirect behavioral assessments (Broekman, Schaap, & Lange, 1985; O'Neill, Horner, Albin, Sprague, Storey, & Newton, 1997), including an analysis of the function of the behavior (Iwata, Dorsey, Slifer, Bauman, & Richman, 1994; O'Neill, et al. 1997; Skinner, 1953).

Once the initial intake procedure has been conducted, the overall process involved with traditional counseling is dependent upon each therapist's individual theoretical perspective (e.g. neo-Freudian, behavioral, cognitive, etc.) and is related to clinical expertise (APA, 2006). Specific (common) techniques include: a) fostering insight, b) encouraging catharsis (free expression of emotions in the protective presence of the therapist), c) cognitive restructuring and d) providing new information to the client on his/her disorder. These techniques are designed to reduce emotional discomfort, define therapy outcomes and raise clients' expectancy for change (Hoglend, 1999; Nietzel, Bernstein, & Milich, 1991). Although the therapy process or theoretical perspective is often presented as producing the most beneficial outcomes, some researchers argue that the combined effects of "Therapist Characteristics" are more a powerful change agent than the specific techniques used during the therapy process (Auld & Hymen, 1992; Critis-Christoph, et al., 1991; Drisko, 2002; Lambert, 1992; Luborsky et al, 1999; Wampold, 2001).

One of the more common components of the therapy process is the assignment of extratherapy tasks (those completed outside the actual therapy time) which incorporates elements of "new information". This new information includes education on key terms associated with the "dysfunction" and information on how those dysfunctional behavior patterns affect the client's life (with children as clients, this can be an educational process for the parents). The extra-therapy task of practicing new behaviors has been reported to occur in approximately 32% of therapies (Grencavage & Norcross, 1990).

From a Behavior Analytic Perspective

Therapist Characteristics – As a behavior analyst, my education did not include specific training on how to "establish a therapeutic relationship" with clients. However, I did receive training on how to use pairing of an identified reinforcer with a neutral stimulus, thus "establishing myself as a conditioned reinforcer," how to conduct a reinforcer assessment, and how to use reinforcers to establish new behaviors. While this behavioral explanation is one example of how to behaviorally describe the effects of the therapists' behavior on the therapist/client interaction, one also needs to address the history that the client brings to the intervention session. Skinner suggests that initially, rather than being a "reinforcing" social audience that the therapist is, instead, a "non-punishing" audience (1953). By serving as either a conditioned reinforcer or a "non-punishing" audience, the characteristics of the therapist factor into the probability that the client will remain in therapy, increasing the probability that the process could have beneficial outcomes (Skinner, 1953). Thus, this component of the therapy process is, for most behavior analysts, a condition that is well understood in the behavioral community.

Therapeutic Relationship – Skinner (1953) has an entire chapter dedicated to psychotherapy and psychiatric conditions. In this book chapter, Skinner argues how psychiatric conditions can be conceptualized as the byproducts of excessive or inconsistent control by social agencies. According to Skinner (1953), the assurance of help that the therapist offers serves to provide relief to the client (escape from the aversive conditions that precipitated entry into counseling) and starts the process of increasing the control the therapist would have over helping to effect change during therapy.

Another component associated with the therapy process includes the balance of attachment and detachment (Korchin, 1976). When looking for the behavioral processes that occur during the therapy encounter, this "balance" could provide a context for extinction of conditioned emotional responses and/or patterns of behavior. It could be that the client has a history of reinforcement and/or punishment for engaging in particular behaviors and is referred to therapy because these behaviors have become problematic in their lives. During therapy the therapist would not punish nor reinforce the exhibition of those behaviors (the "balance"), thus would be using procedures that break, or change, the control that a stimulus has on aberrant behaviors. For example, suppose a client presents with a cluster of behaviors associated with the diagnosis of "reactive attachment disorder." This individual could have a history of severe punishment associated with lack of proximity to the caregiver resulting in an extreme state of deprivation (e.g. loss of food, shelter, etc.). Thus, the reinforcing value of "proximity" is thereby increased. Any attempts to remove, or lengthen "proximity" evokes emotional behaviors (crying, etc.). A "traditional therapist's" response to these behaviors from a child with a history of abuse and neglect would be something like this, "Oh, it's ok, I'm not going anywhere! Come here" (accompanying by hugs, stroking of the hair and back, mummers of comforting sounds and words). Assuming this contact is reinforcing to the child, one can see how we can inadvertently shape behaviors that interfere with daily living. By engaging in the process described above, one could alter certain stimulus functions (proximity), thereby impacting the behavioral characteristics associated with this particular disorder.

While it is quite obvious that the commonalities in traditional psychotherapy can be described in terms of behavioral processes, at times it can become difficult to talk to clients and colleagues whom are conditioned to use the vernacular meaning of terms and/or describe behaviors in terms of internal (and often circular) reasoning – (e.g. he behaves that way because he has conduct disorder, but he has conduct

disorder because he behaves that way). Traditional psychology terms involve complex "sets" of behavior and multiple behavior-environment-behavior-environment chains. These chains can include other people and internal events such as thought and emotion. We view these terms as a short-hand way of describing the underlying mechanisms at work, much like "water" is a short-hand way of describing the molecular bonding/reaction/chemical make-up of the liquid that predominates the surface of the earth: one is a global description, the other describes the make-up and can predict what will happen if the molecular bond is broken. Thus "water" and "the molecular bonding/reaction/chemical make-up of the liquid that predominates the surface of the earth" are equivalent in terms of stimulus function – conceptually (and in laymen's terms) they both mean the same thing. However, by understanding that "water" is equivalent to "the molecular bonding/reaction/chemical make-up of the liquid that predominates the surface of the earth" leaves "water" up to experimental manipulation and the determination of environmental variables that can affect the molecular bonds. Given this, a term such as "triangulation" (the process by which tension and anxiety becomes uncomfortable between two people, thus a third person is "triangulated" in to relieve the tension between the original two) can be described in terms of patterns of behavior, variables that maintain those behaviors and environmental variables that can be altered to affect the "dysfunction" that affects the family pattern of interaction. Thus, psychological terms such as "obsessive/compulsive", "triangulation", or "repression" are short-hand ways of talking about natural changes in behavior based on the context in which it occurs and the history of reinforcement/punishment of the organism who exhibits the behavior.

We behaviorists have been trained to talk about behavior in scientific terms with regard to behavior/environment relationships in order to be clear in our communications with others in our field – we are trained to think as scientists (Findley, 1994). Unfortunately, this presents challenges when working with families and/or providers other than those whom received training from a behavioral education program, the process of describing the therapy/intervention, expectations for the process, procedures and techniques, and outcomes, can often become an exercise much like a mini-course on behavioral terminology – Behavior Analysis 101. Behavioral clinicians need to be aware of this challenge when describing intervention processes and outcomes with clients.

Regardless of the complexities of the therapy-education process, we recognize that behavior is a function of the environmental context in which it occurs with the immediate external contingencies more salient, or exerting more influence, than those in the more distant past. However, there are a host of historical events that operate on our current behavior, such as the frequency of reinforcement/punishment, the magnitude, the durability of the behavior, establishing operations, etc. that also exert influence. These other variables must be considered when attempting to affect the problematic behaviors that precipitate entry into counseling. The behavior analyst needs to consider all these variables as part of the therapeutic process, but does not need to teach these to the client to be effective. As Don Baer would sometimes say, You don't need to know how the image gets on the film in order to be able to take a picture (1999).

Finally, when entering into the therapeutic relationship with the client, behavior analysts need to be aware of how our behavior (particularly verbal behavior) can function to either enhance or inhibit the therapeutic relationship, thus contributing to the overall beneficial outcomes of therapy.

Therapy process – Skinner (1953) provides a beginning for describing traditional psychological terms using behavioral terminology. In *Science and Human Behavior*, Skinner addresses some of the events that occur in traditional psychology and offers some brief behavioral interpretations of those events, particularly in terms of the control of cultural contingencies put in place by government and social institutions such as religion. According to Skinner, cultural control extends to the relationship between therapist and client. So, what are the variables that are present in the counseling relationship that affect the behavior of the client?

As behavior analysts, we look to the environment, rather than internal events, for "causes" of behavior. Skinner (1953) described a functional analysis as a quantification of the relationships between independent and dependent variables within the boundaries of science. This cause-and-effect relationship is based on observable events, rather than guessing or looking at inner states, to understand the "intent" or "meaning" of a behavior. Early research in behavior analysis demonstrated that a variety of behaviors were functionally related to the environment. For example, Lovaas, Freitag, Gold, and Kassoral (1965) demonstrated that self-injurious behavior functioned to gain access to attention with occurrences of self-destructive behavior increasing in frequency and magnitude during conditions with contingent social reinforcement. Subsequently, other research found that escape from difficult demands functioned to maintain severe tantrums in a nine-year-old non-verbal girl (Sailor, Guess, Rutherford, & Baer, 1968). In a seminal study, Iwata, Dorsey, Slifer, Bauman, & Richman (1982/1994) were the first to conduct a *comprehensive* functional analysis of the consequences of problem behavior. Assessments of self-injurious behavior were conducted during 4 conditions (i.e., social disapproval, academic demand, unstructured play, and alone). This type of analysis is typically conducted using a traditional single-subject experimental design (McComas & Mace, 2000).

While a functional analysis is quite desirable and often necessary for extreme aberrant behaviors, an experimental manipulation of intervention components during traditional out-patient therapy could be considered much too intrusive to the "average" therapy client, that is, one who's behavior is severe enough to bring him/her to therapy but is not at the level that it is a danger to oneself or others (which could result in a referral to an inpatient setting where a complete functional analysis could be conducted under controlled conditions). Research has shown that it is often possible to quickly determine the immediate evocative and maintaining stimuli of the problem behavior for some individuals Thus, for many consumers of psychological services function can often be derived from a simple antecedent-behavior-consequence descriptive assessment which can identify those events associated with the 3-term contingency (O'Neill, et al., 1997). While a descriptive analysis only can sometimes lead to ineffective interventions, the use of on-going data collection to determine the effect of an intervention on problem behavior can lead to the early identification of weak or ineffective treatment effects (Baer, Wolf & Risley, 1968; 1987, O'Neill, et. al 1997). Thus, for behavior analysts, an important tool during the initial therapy sessions is to begin to determine the function of the problematic behavior and develop an adequate data collection procedure to determine intervention effects.

As mentioned above, some of the more common therapy techniques include: a) fostering insight, b) encouraging catharsis (free expression of emotions in the protective presence of the therapist), c) cognitive restructuring and d) providing new information to the client on his/her disorder including the assignment of extratherapy tasks. Talking about these terms, however, requires a brief discussion of verbal behavior.

Verbal behavior, from a behavioral view, includes elements of stimulus equivalence (Branch, 1994; Dougher & Hackbert, 2000; Dougher & Markham, 1994; Horne & Lowe, 1996; Lowe & Horne, 1996). This requires a learning history related to the pairing of one stimulus with another until both come to control a similar response. Thus, the written word "cup" on a page is equivalent to the spoken sound sequence k-u-p, which is equivalent to the 3-dimension object that holds liquid, which is equivalent to the covert verbal behavior when "thinking" about a "cup". While most of us would agree that we all have a general idea of what "cup" is, we all bring our unique learning histories associated with the word "cup." For example, if someone were to say, "Think of a cup" I would envision a receptacle that contains coffee; a male involved in high-contact sports might think of an athletic supporter; a young parent might envision a child's "sippy-cup"; a chef might envision "volume" as in measurement – all distinctly different. However, given the context of a room with a table on which sat an object with a handle and the instructions "take the cup and put it in the box" we would all be able to perform the action. Consequently, when viewing the therapy process from a behavior analytic viewpoint, verbal behavior plays a significant

role in providing information about therapist/client roles and expectations (contingencies), terms (stimulus equivalence), and outcomes (breaking some stimulus functions while creating new ones). As behaviorists, we have the ability to examine those components that have the most beneficial impact on therapy outcomes for the client. (For a more comprehensive examination of verbal behavior see Skinner, 1957 or c.f Hayes, 1991 and Hayes, Barnes-Holmes, & Roche, (Eds.) 2001)

Verbal behavior crosses multiple terms and techniques within the "counseling" community. Some of these terms include "rules", "memory", "repression", and "remembering" all of which include not only verbal behavior but stimulus control functions (Skinner, 1957). Skinner (1953) suggests that "repression" is in response to an extreme emotional event in which those variables that are associated with the event have gained sufficient control (stimulus control) to suppress verbal behavior related to the traumatic event. In addition, other authors have suggested that verbal stimuli can function as a stimulus response class and can acquire the corresponding stimulus functions (Dougher & Markham, 1996; Sidman, 1994). If this is the case, then the therapeutic environment in counseling, which produces "catharsis", ("the release of ideas, thoughts, and repressed material from the unconscious, accompanied by an emotional response and relief" OMD, 2007) could serve to establish conditions under which extinction of emotional responses to environmental variables, can occur. The behavior has to be emitted with no reinforcement to affect the pairing of stimulus/response relationship. Thus, "catharses", or verbal behavior related to a history of abuse or trauma, would allow for the extinction of the corresponding emotional responses (Dougher & Hackbert, 2000).

I would add to this that "repression" is a function of "memory", that "memory" is covert verbal behavior, and that covert verbal behavior is behavior that is a product of our interaction with our external environment. Some memories occur daily – our memory of how to drive home, to work, use the phone, etc. Other memories are contingent upon discrete environmental conditions that evoke the "memory". Examples of this would be songs that you can sing all the words to while listening to it on the radio but for which you cannot "remember" all the words when attempting to sing it in the shower. The shower does not contain all of the environmental variables (e.g. instrumental music, etc.) that are necessary to evoke the correct sequence of words. Thus, when looking at "repressed memories" one would look to the context under which the "repressed memory" was "remembered" and reported to determine which elements of the environment are responsible for evoking the memory.

I recently listened to a program on NPR that talked about this artist that, for years, painted pictures of pastures. He then added horses and later naked women. At one point he put all three features into the same painting. When that occurred (environmental features) he "remembered" an incident with an early girlfriend that he had "repressed" and realized that all his paintings were a reflection of that event. Here again, one could look to the context under which the "repressed" memory emerged to explain how that repressed memory was evoked (WNYC Radio, 2007).

In order to explain behavior that occurs or is maintained in the absence of apparent evocative antecedents and maintaining consequences, we must look to establishing operations (EOs) as well as schedules of reinforcement and/or punishment on the probability of behavior. EOs are those events that operate on all three terms of the three-term contingency and can evoke or potentiate behavior as well as have an inhibitory (or abolishing) effect (Michael, 1982, 1993b). Michael, (1993b) defined EOs as environmental events (such as stimulus conditions) that momentarily affect the reinforcing value of other events and can evoke other behaviors that are relevant to that event. Though EOs are generally thought to have momentary effects (Michael 1982, 1993b), Dougher and Hackbert (2000) present an argument for the long-term durable effects of EOs on behavior. If this is true, then early traumatic events can have long-term establishing functions. This could explain why some behaviors appear to occur independent of current environmental conditions, with no obvious immediate antecedent or consequence in the current environment. Some authors (Smith & Iwata, 1997) discuss the role that emotions play in altering the

probability of a class of behaviors. According to Smith and Iwata, the evocative functions of "emotions" place them directly in the realm of EOs. Given that emotions play a significant role in the entry into therapy, understanding EOs and the role they play as moderators of intervention effects is quite important. Finally, in addition to EOs, variable schedules of reinforcement can play a significant role in the durability of behavior often appearing as if the behavior is occurring in the absence of external control (Sulzer-Azaroff & Mayer, 1991).

Recently, clinical researchers have begun to examine the effects of EOs on the maintenance of psychotic behaviors. For example, Baker, Blumberg, Freeman & Wieseler, (2002) present data regarding the use of EO assessments on the development of effective intervention procedures for a client that presented with problematic psychiatric conditions (e.g. delusions). In their paper, Bake et al. examined delusions as functioning as an establishing operation for problematic behaviors. In the presented case study, the authors were successful at using a functional assessment process to develop a hypothesis regarding the problem behaviors, altering the establishing operations, and impacting the problematic behaviors. As the authors point out, by incorporating an understanding of psychiatric illness with behavior analytic assessment techniques, a functional relationship can be established and effective interventions can be implemented (Cooper, Heron, & Heward, 1987; Michael, 1993b).

Another way to describe this event is in terms of rule-governed behavior. Rule-governed behaviors are those behaviors that occur as part of a verbal community. Rules function as a set of discriminative stimuli that describe the contingencies of reinforcement and thus occasion specific behaviors (Dixon, 2000; Lappalainen & Tuomisto, 1999; Skinner, 1953; Winch, 1956; Winokur, 1971). Following "rules" (whether implicit or explicit) is foundational to "behavioral" interventions that include contingency contracting and contingency management (Burkhart, Rayens, Oakley, Abshire, & Zhang, 2007; Sigmon, Dunn, & Higgens, 2007; Singh et al., 2007). However, when rules exert too much control over behavior, it can become problematic for the client (Hayes, et al., 2006). It would seem that the degree to which a client's behavior is under rule-governed control would be the extent to which the therapy process would produce differential outcomes. In terms of the applied research, the questions would be, "Under what conditions and with which client characteristics are rules sufficient to produce beneficial outcomes?"

Other therapy processes described in the psychological literature can also be translated into behavioral terms. While the analysis of each term could, in and of itself, be an entire article, we will provide a few suggestions for how the traditional therapy term could be described using behavioral processes. For example, one of the overall goals during traditional therapy is to foster "insight". "Insight" is defined as a "clear or deep perception of a situation, a feeling of understanding, the clear (and often sudden) understanding of a complex situation, or grasping the inner nature of things "intuitively" (wordnet.princeton.edu/perl/webwn, 2007). As can be seen from this definition, "insight" can be described in terms of verbal behavior, both covert and overt (what the client says to the therapist). Another common goal of therapy is to encourage catharsis, or the purging of emotional tensions. When emotions are expressed freely in the presence of the therapist with no punishing and/or reinforcing consequences, the "cathartic" process would allow for the extinction or those emotional responses, thus altering the control of stimulus-response patterns and contributing to a reduction in problematic behaviors in the client's life (Skinner, 1953). By examining the components of the traditional psychological therapy process that have been shown to produce positive outcomes, providing an operational definition of those components according to basic behavioral processes, and systematically applying them during therapy, behavior analysts have the potential to begin to expand our interventions into those areas that have historically been the domain of traditional psychology.

Traditional Counseling Programs Using Behavior Analytic Techniques

There have been decades of research relative to parent training and its effects on child outcomes (Brestan & Eyberg, 1998; Lonigan, Elbert, & Johnson, 1998). One such example is *Parent-Child Interaction Therapy*.

Parent-Child Interaction Therapy (PCIT) is parent training intervention/therapy that incorporates play-based activities with behavioral principles and techniques to alter ineffective parenting practices. This program has been demonstrated to be effective in producing increases in desired behaviors (both parent and child) while decreasing undesired behaviors (Querido, Bearss, & Eyberg, 2002).

PCIT incorporates specific techniques for increasing consistency in the parental management of problematic behaviors in their children. These techniques include behavior management skills, changing the focus of parental attention from negative child behaviors to a focus on positive child behaviors, presentation of specific requests vs. vague requests, and use of consistent consequences for inappropriate behavior such as time-out-from-positive-reinforcement (and methods to ensure that "time-in" is reinforcing). Several authors have suggested that creating a positive bond between the parent and child makes parents more effective in managing child behavior or in healthy child development (Baumrind, 1967, Pettit, Bates, & Dodge, 1993). This can be considered changing the stimulus function of the parent from one that signals punishment to one that signals reinforcement; providing contingent parental attention for appropriate vs. inappropriate behaviors; and establishment of oneself as a conditioned generalized reinforcer.

PCIT's theoretical underpinnings are based on an integrative model incorporating developmental research, social learning models, attachment theory, and behavioral principles. PCIT is structured after the two-stage parent training model developed by Hanf (1969). The essential difference is the incorporation of a child-directed segment of therapy in which the parent is taught to engage in child-led play while placing no demands on or giving no commands to the child and refraining from asking questions while differentially reinforcing appropriate and extinguishing inappropriate behaviors. This is essentially a "no-demand" condition. Once parents reach a set criterion (parent behavior is observed and recorded), the second stage adds therapist modeling and coaching for consistent use of targeted parental skills. These skills include, for example, setting clear limits and expectations, consistency, and the use of a time-out procedure. PCIT has been determined to be an empirically supported treatment (EST) for managing disruptive behaviors in Caucasian preschool-aged children (Eyberg, 2005), with most children meeting DSM-IV criteria for Oppositional Defiant Disorder (ODD). To be considered an EST, at least two, well-controlled, randomized studies must be completed showing efficacy with the specified population (Calhoun, Moras, Pilkonis& Rehm, 1998; Chambless & Hollon, 1998; Kendall, 1998).

Acceptance and Commitment Therapy (ACT) promotes behavior change through "nonjudgmental awareness and acceptance of subjective internal experiences" (Gaudino, 2006, p.103), thus placing it in the realm of traditional psychotherapy. The basic tenant of ACT is that psychopathology (problematic behaviors that bring individuals to counseling) develops through the interaction of language and cognition with direct environmental contingencies (Hayes, et al., 2006). This interaction results in problematic behaviors, such as the inability to persist in functional behavior patters or change dysfunctional behaviors that prevent one from reaching long-term goals. Therapy is designed to affect the psychological flexibility of participants. ACT involves commitment and behavior change processes as well as mindfulness and acceptance processes to address 6 core areas: acceptance, cognitive defusion, being present, self as context, values and committed action (Hayes et al, 2006).

ACT is designed to teach individuals to stop trying to change their thoughts and feelings and instead accept them. The context of the thoughts and feelings is examined and attempts are made to change the function of those private events. The 6 core areas are targets for change during the therapy process. For example, "acceptance" and active awareness of these private events is taught to replace "experiential

avoidance." Thus, the dysfunctional private event (cognitive fusion) can be present and new relationships can be taught in the presence of the dysfunctional private event, serving to break the stimulus control function of those private events as well as allowing extinction of any previous escape or avoidance behaviors. ACT focuses on changing the *function* of thoughts and feelings instead of changing the frequency or form of these behaviors.

ACT is based upon relational frame theory (RFT; Hayes, Barnes-Holmes, & Roche, 2001). In regards to psychopathology and psychotherapy, RFT proposes that "human cognition is a special kind of learned behavior. . . cognition alters the effects of other behavioral processes. . . and cognitive relations and cognitive functions are regulated by different contextual features of a situation" (Hayes, et al., 2006, p.5). Accordingly, "psychological and behavioral difficulties are the manifestation of attempts to control, avoid, and/or suppress aversive private events" (Marx, 2006, p. 372). RFT expands the notion of the operant and stimulus control in human language and cognition beyond simple stimulus equivalence, outlining a process by which stimulus functions are derived or changed based on context and prior learning history (Hayes, 1994; Hayes, et al., 2006). For a more complete description of ACT see Hayes, Strosahl, and Wilson, 1999 or Hayes, and Strosahl, (Eds.), 2005; and for a more complete description of RFT see Hayes, 1991 or Hayes, Barnes-Holmes, and Roche, 2001.

Summary/Conclusion/Future Research

Much of human behavior is learned "incidentally"; it is not "programmed" or directly taught which provides the potential for dysfunctional or problematic behaviors, with a wide array of topographies, across multiple settings. Given the range of conditions which bring clients into therapy, research has demonstrated that traditional psychotherapy has general benefits (Smith & Glass, 1977; Smith, Glass & Miller, 1980; Grencavage & Norcross, 1990; Reid, Kenaley, & Colvin, 2004). In 1995, in response to concerns that psychological treatments for specific disorders were not effective (APA, 2006), the APA Division 12 established a Task Force on the Promotion and Dissemination of Psychological Procedures to outline the criteria for what is considered empirically supported treatments. What continues to be necessary is to explore the differences between the individuals for whom the approach works and for whom the approach does NOT work, and how to translate that research into effective clinical work. From a behavioral perspective, I would suspect that the degree to which an intervention is effective is the degree to which we can discover the variables that exert the most control over the client's behavior. For example, suppose a client enters therapy and it is determined through the initial assessment that he is very schedule driven, that is, he uses his personal digital assistant (PDA) to monitor his appointments and plan his day/week/month in order to avoid missing appointments and/or business opportunities. This particular individual might benefit most from a contingency contract which would clearly outline the contingencies associated with the behavior targeted for change during the therapy process. Let's say another client for whom the presenting problem is procrastination, which could potentially be (in part) a function of a schedule of negative reinforcement, only begins to respond when the deadline is looming, when the parent is due to arrive home, when the homework assignment is due the next day, or the spouse threatens to leave the marriage. In this instance, a procedure designed to spell out the contingencies of more adaptive behavior could be established combined with a procedure to systematically switch control to a schedule of positive reinforcement. Each individual brings a unique learning history to therapy and the outcomes are contingent upon our ability to accurately assess those environmental variables that exert the most control over client behavior (both the problematic as well as the more acceptable behaviors) and systematically implement procedures that target both.

While much has been written on the explanation of and potential application for traditional psychological terms and disorders, there remains a paucity of studies relative to behavior analysis and internal events and/or states and the variables that control or maintain them. As behavior analysts, we need to arrange our professional community to support research in the topic areas that are the domain of traditional psychology, such as the reduction of emotional states related to aberrant/problematic

behaviors. In addition, in order to advance the science of human behavior, researchers in this area could then develop specific techniques (from a behavior analytic approach) for therapeutic processes for children/families that are based in science. It is important to have objective targets for change, and to have therapist behaviors and therapy procedures clearly defined, in order to promote successful behavior change. In keeping with the spirit of the principles of behavior as outlined by Skinner (1953), the application of those principles to socially significant behaviors (Baer, Wolf, & Risley, 1968), and "parsimony" (the accepted scientific principle that states that the simplest explanation for the greatest number of observations is preferred over complex explanations), who is in a better position than behavioral researchers, to tackle the analysis of *all* human behavior in order to develop more precise, and meaningful technologies for change?

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